

Tortured phrases: A dubious writing style emerging in science. Evidence of critical issues affecting established journals

Year: 2021 | Citations: 613 | Authors: G. Cabanac, C. Labb'e, A. Magazinov

Abstract

Probabilistic text generators have been used to produce fake scientific papers for more than a decade. Such nonsensical papers are easily detected by both human and machine. Now more complex AI-powered generation techniques produce texts indistinguishable from that of humans and the generation of scientific texts from a few keywords has been documented. Our study introduces the concept of tortured phrases: unexpected weird phrases in lieu of established ones, such as 'counterfeit consciousness' instead of 'artificial intelligence.' We combed the literature for tortured phrases and study one reputable journal where these concentrated en masse. Hypothesising the use of advanced language models we ran a detector on the abstracts of recent articles of this journal and on several control sets. The pairwise comparisons reveal a concentration of abstracts flagged as 'synthetic' in the journal. We also highlight irregularities in its operation, such as abrupt changes in editorial timelines. We substantiate our call for investigation by analysing several individual dubious articles, stressing questionable features: tortured writing style, citation of non-existent literature, and unacknowledged image reuse. Surprisingly, some websites offer to rewrite texts for free, generating gobbledegook full of tortured phrases. We believe some authors used rewritten texts to pad their manuscripts. We wish to raise the awareness on publications containing such questionable AI-generated or rewritten texts that passed (poor) peer review. Deception with synthetic texts threatens the integrity of the scientific literature.